



Code guidance from the Department of Labor and Industries
Office of the Chief Electrical Inspector

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Inspector

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Electrical code issues and answers.

● Stakeholder Meeting Scheduled

Stakeholders meetings have been scheduled well in advance to help all attendees better plan their busy schedules and agendas. This is your chance for input. You can also receive 4 CEU credits for attending the meeting and satisfactorily completing the take home exam that will be available at the meeting. The meetings now scheduled are as follows:

Tacoma ...March 29, 6:30 – 8:30 PM
Moore Branch – Tacoma Public Library
215 South 56th
Tacoma, WA

● Mounting Electrical Devices and Equipment on T-Bar Ceilings

Questions have been raised on the application of supporting electrical equipment on t-bar ceiling tiles. Installers have mounted devices, such as smoke detectors, to ceiling tiles without back-boxes or other support.

Some fire alarm devices are listed to be installed without back-boxes. Some have mounting plates that appear to be for mounting to electrical boxes, only. Installation instructions may reveal that the device is permitted to be secured to the mounting plate without a back box.

Use of this type of device is identified in the following code articles:

- NEC 336-18, exception No. 2: *"A wiring device identified for the use, without a separate outlet box, incorporating an integral cable clamp shall be permitted where the cable is secured in place at intervals not exceeding 4 ½ ft..."*
- NEC 300-15(e) States that *"A wiring device with integral enclosure identified for the use, having brackets that securely fasten the device to walls or ceilings of conventional onsite frame construction, for use with nonmetallic-sheathed cable, shall be permitted in lieu of a box or conduit."*

The use and application of these devices is permitted where proper support is provided for the cable and device (NEC 110-13: *"Electrical equipment shall be firmly secured to the surface on which it is mounted."*). Firm support is accomplished when cables are supported at proper intervals and the device is supported by structural building members.

Because of their design, ceiling tiles do not provide firm support for electrical equipment. Equipment or devices identified for mounting with or without a back box must be directly supported by a structural building member.

● Physical Protection of Cables

There has been considerable confusion over the requirements of protection for cables subject to physical damage. There are numerous sections of the National Electrical Code where different requirements apply to various cable types and installations.

NEC 300-4 states that *"Where subject to physical damage, conductors shall be adequately protected"*. Other articles in the NEC go into further detail on what methods of protection must be afforded for specific types of cable and their location of installation.

If in the judgment of the inspector, exposed metallic or non-metallic cable is subject to physical damage; it must be protected up to a height of **ten feet**. If other articles in the NEC have specific requirements, they take precedence.

● WAC 296-46 and WAC 296-401A To Be Revised

Notice to make modifications to WAC 296-46 and WAC 296-401A have been filed. The department is interested in stakeholder input for proposed changes to these WAC's. Anyone with suggested changes should write the Chief Electrical Inspector providing proposed changes with justification for the change. The Chief's address is: PO Box 44460, Tumwater, WA 98504.

● References To Testing Laboratories

Electrical products require third party certification in the State of Washington. The required certification may be achieved by listing or field evaluation. It has been common to refer to certification of products as "UL approved", "UL'd" or other terms denoting accredited testing laboratory approval. The department has given accreditation to sixteen testing laboratories for testing and/or evaluating products against ANSI standards. It is not completely accurate to refer to recognition of electrical product safety as "UL approved" when other testing labs are accredited to approve products. More accurate terminology would be "third party approved", "listed", or other generic terminology that does not lead to misunderstanding of who may "list" or "evaluate" products. A complete list of testing laboratories accredited with the department can be obtained at www.wa.gov/electrical/testlab.htm.

● March 1, 2000 HVAC/R Application and Grandfathering Period Extended

The Director of the Department Of Labor and Industries has extended the time allowed for HVAC/R contractors and installers to register with the department. The extension applies to WAC 296-46-930(2)(e)(III) and WAC 296-401A-140 (7). The full text for these extensions is available on the electrical web site.

The department will continue to accept proof of experience for HVAC/refrigeration contractors and installers until October 1, 2000. The department will continue to accept proof of experience for HVAC/refrigeration contractors and installers until October 1, 2000, however non-compliance after June 30, 2000 may result in a citation. The enforcement practices for non-compliance are outlined in the diagram below. If a citation is issued for not complying with the HVAC/R licensing/certification requirements the contractor, administrator or technician will lose all "grandfathering" exemptions.

